

CLAIMS

What is claimed is:

1. recording and playing back device, comprising:
 - a reader/writer for reading and writing data from/to a storage medium;
 - a determiner for determining whether data can be successfully read by said reader/writer;
 - a retry commander for commanding said reader/writer to retry to read the data if said determiner determines that the data read operation can be unsuccessful; and
 - a data overwrite logic for overwriting the storage medium with the read data if a command has been issued a predetermined number of times or more by said retry commander when the data read operation is determined to be successful by said determiner.
2. The recording and playing back device according to Claim 1, further comprising data saving logic for saving the data to be overwritten to a nonvolatile memory before the data is overwritten by said data overwrite logic.
3. The recording and playing back device according to Claim 2, further comprising a pointer information changer for changing the pointer information which points to the storage location of the data to be read on the storage medium after the data was saved by said data saving logic or overwritten by said data overwrite logic.

4. A storage device, comprising:
a recording disk for storing data;
a head for reading and writing data from/to said recording disk; and
a controller for controlling said head;
wherein said controller makes said head perform:
a first process of reading the data stored in a first area of said recording disk and storing it in a temporary storage;
a second process of writing the data stored in said temporary storage to a second area of said recording disk if certain conditions are satisfied; and
a third process of writing the data stored in said temporary storage to the first area.

5. The storage device according to Claim 4, further comprising a nonvolatile memory for storing pointer information, i.e., information as to what should be accessed when reading data by said head;

wherein said second process includes storing, in said nonvolatile memory, pointer information which indicates that the data is stored in said second area.

6. The storage device according to Claim 5, wherein if said third process is not completed, then when reading data by said head, the data is read from said second area, based on the pointer information stored in said nonvolatile memory.

7. The storage device according to Claim 5, wherein said third process includes storing, in said nonvolatile memory, pointer information which indicates that the data is stored in said first area.

8. The storage device according to Claim 5, wherein some area of said recording disk has been set as said nonvolatile memory.

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9. A computer device, comprising:
a storage device which has a nonvolatile recording disk for storing data; and
a host device which makes data read/write requests to said storage device,
wherein said storage device comprises a controller which performs, if a predetermined number or more retries are needed before the data requested by said host device is read from said nonvolatile recording disk,
a data save process of saving the data read successfully, and
a data write process of writing, after said data save process, the data read successfully to the same track of said nonvolatile recording disk as the track that had contained the data which was read successfully.

10. The computer device according to Claim 9, wherein said controller performs:

a read test on the data stored on said nonvolatile recording disk; and

said data save process and said data write process if the number of retries before reading data during a read test reaches or exceeds a predetermined threshold.

11. The computer device according to Claim 10, wherein when reading data at a request from the host device, said threshold is set lower than the number of retries that satisfies the conditions for performing said data save process and said data write process.

12. A data processing method wherein if a predetermined number or more retries are made when reading data from sectors of a nonvolatile storage medium, said data processing method performs:

a first step of saving the read data to other sectors and storing the pointer information which points to the stored location of the data to be read out in said nonvolatile storage medium by changing it to said other sectors; and

a second step of writing the read data over said sectors from which the data was read and storing the pointer information in said nonvolatile storage medium by changing it to said sectors.

13. The data processing method according to Claim 12, wherein said data processing method further performs a step of releasing said other sectors after the data overwrite is complete in said second step.

14. A program sending device, comprising:

a storage unit for storing a program to be executed by a computer device; and

a transmitter for reading said program out of said storage unit and transmitting said program to the computer device,

wherein said program makes the computer device perform:

a process of determining whether retries were made a predetermined number of times or more before data was read successfully from a predetermined area of a storage medium;

a process of saving any data on which retries were determined to have been made a predetermined number of times or more to another area of said storage medium; and

a process of overwriting said predetermined area with the data on which retries were determined to have been made a predetermined number of times or more.

005543-09404